SANTA CRUZ BIOTECHNOLOGY, INC.

APNG (C-19): sc-21446

BACKGROUND

Maintenance of DNA sequences is necessary for vertebrates and other life. DNA is under constant stress by a plethora of DNA-damaging agents present in both the environment and within cells. The potentially deleterious effects of DNA lesions in cells are elegantly resolved by sophisticated DNA repair systems, including base excision repair (BER), nucleotide excision repair (NER) and DNA repair methyltransferase (MTase). Methylated bases, such as 3-methyladenine (3MeA) and 7-methylguanine (7MeG) can be formed by agents in the environment and by endogenous cellular processes. Consequently, in the absence of exposure to environmental agents, DNA methylation damage can be incurred on the genomic DNA of normal mammalian cells. DNA N-glycosylases are base excision-repair proteins that locate and cleave damaged bases from DNA as the first step in restoring the sequence. 3MeA DNA glycosylases initiate base excision repair by removing 3MeA. These glycosylases also remove a broad spectrum of spontaneous and environmentally induced base lesions. The human N-methylpurine-DNA glycosylase gene maps to chromosome 16p13.3 and encodes a 298 amino acid protein, known as APNG.

REFERENCES

1. O'Connor, T.R. 1993. Purification and characterization of human 3-methyladenine-DNA glycosylase. Nucleic Acids Res. 21: 5561-5569.
2. Friedberg, E.C., et al. 1995 DNA Repair and Mutagenesis. Washington, DC: ASM Press.
3. Allan, J.M., et al. 1998. Mammalian 3-methyladenine DNA glycosylase protects against the toxicity and clastogenicity of certain chemotherapeutic DNA cross-linking agents. Cancer Res. 58: 3965-3973.
4. Smith, S.A., et al. 2000. *In vivo* repair of methylation damage in Aag 3-methyladenine DNA glycosylase null mouse cells. Nucleic Acids Res. 28: 3294-3300.
5. Online Mendelian Inheritance in Man, OMIM™. Johns Hopkins University, Baltimore, MD. MIM Number: 156565: 8/01/2000: World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. LocusLink Report (LocusID: 2243). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: PON1 (human) mapping to 7q21.3; Pon1 (mouse) mapping to 6 A1.

SOURCE

APNG (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of APNG of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21446 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PON1 (N-20) is recommended for detection of PON1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PON1 siRNA (h): sc-44031, PON1 siRNA (m): sc-44406, PON1 shRNA Plasmid (h): sc-44031-SH, PON1 shRNA Plasmid (m): sc-44406-SH, PON1 shRNA (h) Lentiviral Particles: sc-44031-V and PON1 shRNA (m) Lentiviral Particles: sc-44406-V.

Molecular Weight of PON1: 43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.